

Serial No. 08/787,651

Claim 2 is rejected under 35 U.S.C. 103 as being unpatentable over Gaddis et al. in view of United States Patent No. 6,603,769 issued to Thubert et al. on August 5, 2003.

Claims 15, 16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Application Publication No. 2002/0110087 issued to Zelig et al. which was published on August 15, 2002.

Claims 20, 21, and 23 are rejected under 35 U.S.C. 103 as being unpatentable over Zelig et al. in view of Gaddis et al.

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Rejection Under 35 U.S.C. 112, Second Paragraph

Claims 15-27 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Office Action states that the limitation "said ports in said metropolitan area Ethernet network" in claim 15 lacks clear antecedent basis. This ground of rejection is respectfully traversed for at least the following reason.

There is proper antecedent basis for the limitation in claim 15, lines 1-2, which recites "[a]n edge switch for use in a metropolitan area Ethernet network having ports adapted to be coupled to at least one local area Ethernet network". Clearly the recited ports are in the metropolitan area network.

Serial No. 08/787,651

Rejection Under 35 U.S.C. 103(a)

Gaddis et al.

Claims 1, 3-8, 28-30, and 33-38 are rejected under 35 U.S.C. 103 as being unpatentable over United States Patent No. 5,815,501 issued to Gaddis et al. on September 29, 1998.

The Office Action states that Gaddis discloses all of the elements of applicant's claims, except encapsulating one Ethernet packet into another Ethernet packet. However, the Office Action appears to then state that it would be obvious to do so in order to improve packet throughput because Ethernet packets are much larger than ATM cells.

This ground of rejection is respectfully traversed for at least the following reasons.

First, Gaddis et al. teaches incorporating parts of packets of a first type, e.g., Ethernet packets, into packets of a second type, e.g., ATM cells. There is no suggestion in Gaddis et al. that packets of a first type be encapsulated in another packet of that **very same** first type.

Second, while generally one of ordinary skill in the art would understand the necessity of encapsulating a first type of packet in a second type of packet, so that the first type of packet can be carried over a network designed to carry packets only of the second type, prior to applicant's invention there is no reason why one would encapsulate a first type of packet in a packet of the same type.

Third, the Office Action's proposed motivation of improved throughput by encapsulating Ethernet packet within another does not hold water, since the Ethernet packets are already suitable for transport across an Ethernet network and are already much larger than ATM cells. In fact, the Office Action's proposed motivation **teaches away** from applicant's invention, in that the throughput of ordinary Ethernet is reduced by the applicant's claimed encapsulation due to the increased overhead caused by the second Ethernet header. Thus it can be seen that the Office Action's proposed motivation is simply an attempt to improperly use hindsight to reconstruct applicant's invention from a reference that is irrelevant to applicant's invention as claimed.

Serial No. 08/787,651

There are additional reasons why one of ordinary skill in the art looking to solve applicant's problem would not look to Gaddis et al., and hence Gaddis et al. is not a suitable basis for an obviousness rejection of applicant's claims. Gaddis et al. teaches the use of ATM, which is a connection-oriented protocol, while Ethernet is a connectionless protocol. Therefore, Gaddis et al. is teaching the transporting of connectionless datagrams over a connection-oriented infrastructure. To this end, ATM requires a virtual circuit be established using an out-of-band signaling protocol before any transmission of information over the virtual circuit can be made. As a result, the operation of Gaddis et al. is highly dependent on the signaling used by ATM. By contrast, in applicant's invention as claimed, because it is solely Ethernet based, no signaling is required, which represents an improvement as compared to Gaddis et al. One of ordinary skill in the art would not look to such a signaling-based arrangement to develop a non-signaling-based system.

Furthermore, because ATM cells are short, ATM almost always requires segmentation and reassembly of the larger packets that travel over it, so segmentation is the general rule in Gaddis et al. However, in the instant invention, use of segmentation is an exception that is likely to be used much more infrequently, which yields another improvement as compared to Gaddis et al.

Lastly, Gaddis et al. does not teach assigning the source address of at least one encapsulating Ethernet packet to be the address of the port at which the packet was received, as in applicant's claim 1. Likewise, applicant requires learning in order to establish the association between Ethernet addresses. There is no teaching or suggestion of learning of such association in Gaddis et al. as in applicant's claim 15.

Thus, upon closer inspection, there really is not much that is similar about Gaddis et al. and applicant's invention as claimed. Nor is there any motivation to modify Gaddis et al. in a way that would result in development of applicant's invention as claimed.

Therefore, applicant's claims 1, 3-8, 28-30, and 33-38 are allowable over Gaddis et al. under 35 U.S.C. 102.

Serial No. 08/787,651

Gaddis et al. and Thubert et al.

Claim 2 is rejected under 35 U.S.C. 103 as being unpatentable over Gaddis et al. in view of United States Patent No. 6,603,769 issued to Thubert et al. on August 5, 2003.

This ground of rejection is respectfully traversed for at least the following reasons.

Since a) claim 2 depends from independent claim 1, b) this ground of rejection is predicated on the validity of the rejection of claim 1, which has been traversed hereinabove, and c) Thubert et al. does not supply the element noted above that is from missing Gaddis et al., therefore claim 2 is allowable over the proposed combination of Gaddis et al. and Thubert et al. under 35 U.S.C. 103.

Zelig et al.

Claims 15, 16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Application Publication No. 2002/0110087 issued to Zelig et al. which was published on August 15, 2002.

The Office Action states that Zelig et al. teaches all of applicant's recited limitations except an access switch for use in a metropolitan area network. However, continues the Office Action, it would have been obvious to modify Zelig et al. to perform in a metropolitan Ethernet network so that an access switch would provide an efficient setup of bi-directions services since Zelig et al. suggests that the principles of his system would be applied to other networks.

This ground of rejection is respectfully traversed for at least the following reasons.

First, Zelig et al. teaches that network 22 is not an Ethernet network. Although it may be a an IP and/or MPLS network or some other type of network, e.g., as reflected in paragraph 70 cited by the Office Action, it may not be an Ethernet network, at least not when it is connecting other Ethernet networks. Indeed, if network 22 were an Ethernet network connecting other Ethernet networks, that would defeat the entire purpose of Zelig et al., which is to convey packets via MPLS tunnels. This is clear, since if network 22 were simply an Ethernet network, the packet would not need a tunnel, but would simply be conveyed directly across the Ethernet network.

Serial No. 08/787,651

In other words, although network 22 may be various types of networks, as suggested by Zelig et al. in paragraph 70, which was cited by the Office Action, and so may be the networks that are connected by network 22, there is no suggestion that network 22 and the networks connected thereby be of the same type. Rather, it is taught away from network 22 and the networks connected thereby being of the same type, since if that were the case the tunneling arrangement, which is central to the teaching of Zelig et al., would not be necessary, thus defeating the purpose of Zelig et al.

Applicant also notes that, notwithstanding the Office Action's assertion to the contrary, at least given the foregoing, there does not appear to be any teaching or suggestion in Zelig et al. of a memory for establishing a correspondence association between addresses within a local area Ethernet network and addresses of ports in the metropolitan area Ethernet network, as required by applicant's claim 15.

Zelig et al. in view of Gaddis et al.

Claims 20, 21, and 23 are rejected under 35 U.S.C. 103 as being unpatentable over Zelig et al. in view of Gaddis et al.

This ground of rejection is respectfully traversed for at least the following reasons.

Since a) these claims depend from independent claim 15, b) this ground of rejection is predicated on the validity of the rejection of claim 15 in view of Zelig et al., which has been traversed hereinabove, and c) Gaddis et al. does not supply the missing element from Zelig et al., therefore claims 20, 21, and 23 are allowable over the proposed combination of Zelig et al. in view of Gaddis et al. under 35 U.S.C. 103.

Serial No. 08/787,651

Conclusion

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

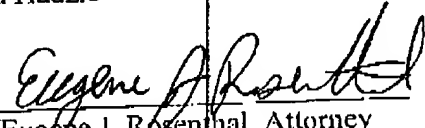
If, however, the Examiner still believes that there are unresolved issues, he is invited to call applicant's attorney so that arrangements may be made to discuss and resolve any such issues.

In the event that an extension of time is required for this amendment to be considered timely, and a petition therefor does not otherwise accompany this amendment, any necessary extension of time is hereby petitioned for, and the Commissioner is authorized to charge the appropriate cost of such petition to the **Lucent Technologies Deposit Account No. 12-2325**.

Respectfully,

Ilija Hadzic

By


Eugene J. Rosenthal, Attorney
Reg. No. 36,658
732-949-1857

Lucent Technologies Inc.

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